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ABSTRACT

The accurate prediction of violence has been in the spotlight of critical concern in recent years. To investigate the relative predictive power of peer pressure, youth perceived negative labeling, youth perceived access to educational and occupational roles, social alienation, self-esteem, sex, and age with regard to gang fight participation (GFP), 1,551 males and females, aged 10 to 19, representing a 6 percent systematic sample of youths from a Pennsylvania school system, completed the HEW Impact Scales and a demographic questionnaire. An analysis of the results showed that 74 percent of the sample could be correctly classified via the Impact Scales and by sex, with normative peer pressure towards delinquency being the most predictive variable for GFP level (low, medium, high). Youth perceived negative labeling by teachers was the second most predictive variable. Measures relating to alienation, youth perceived access to social roles, youth perceived negative labeling by parents and peers, parental rejection, self-esteem, age, and sex were unrelated to GFP level. The findings highlight the paramount role of peer relations in gang fight participation. (BL)

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Predicting gang fight participation in a general youth sample via the HEW youth development model's community program Impact Scales, age, and sex.

ED239188

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Abstract

A multiple stepwise discriminant function analysis of HEW community program Impact Scales, age, and sex vis a vis low, medium, and high level gang fight participation was run on self-report data of 1,551 youths, ages 10 - 19, who comprised a roughly 6% systematic school system sample. Overall, 74% of the sample could be correctly classified via Impact Scales and sex, listed here in order of predictive power: Normative Peer Group Pressure, and Youth Perceived Negative Labeling by Teachers. Measures relating to alienation, Youth Perceived Access to educational and occupational roles, parental rejection and self-esteem were unrelated to gang fight participation.

Predicting gang fight participation in a general youth sample via the HEW youth development model's community program Impact Scales, age, and sex.

The accurate prediction of violence has been very much in the spotlight of critical concern during recent years. Behavioral scientists have repeatedly warned that such predictions are fraught with peril (Cohen, Groth, & Seigel, 1978; Koerin, 1978; Schlesinger, 1978; Monahan, 1981; Ewing, Note 1; and Truckenmiller, 1983a. False positives for dangerousness are the most problematic errors of prediction encountered (Monahan, 1981). Even in a study where 71.4% of a youth sample could be correctly classified into low, mid, and high self-reported wanton assaultiveness (WA) groups (Truckenmiller, 1983a) giving only 7.4% high WA false negatives and 41.7% high WA correct identifications (10/24 in an n = 1,551 sample), the high WA individuals were mixed in with 203 non high WA youth, yielding 95% false positives for high WA.

Monahan (1981) has suggested that clinical prediction of violent behavior can be improved by reference to base rates and a consideration of situational correlates of violent behavior such as the family environment, peer environment, job environment, weapons availability, alcohol availability, and interactions between the person and his/her environment. When considering youth violence, "Gang violence is probably the paradigmatic case of peer-induced harm." (Monahan, 1981, pp. 133, 134), that is, the product of a specific, circumscribed, environmental context. It is the purpose of this report to focus on the relative predictive power of peer pressure and a number of other variables (youth perceived negative labeling by parents, teachers and peers; youth perceived access to educational and occupational roles; social aliena-

tions; and self-esteem) with regard to gang fight participation.

The HEW OYD National Strategy for Youth Development Model serves as the framework for this study. The HEW model was formulated as a community-based planning and procedural tool designed to enhance positive youth development and prevent delinquency through a process of youth needs assessment, development of needs targeted programs, and program impact evaluation (Elliott et. al., Note 2). The National Strategy is unique in that it is predicated on a social-psychological model of youth development and contains requisite measures of the model's components. Many assessment tools are employed: a problems and needs section; a knowledge of agencies questionnaire; a demographic information section; and a series of Impact Scales. The Impact Scales most directly reflect the models components in psychometric form. Acceptable reliabilities (Brennan & Huizinga, Note 3), substantial predictive validity of Impact Scales with respect to SRD on the order of multiple $\underline{R} \approx .70$ (Brennan & Huizinga, Note 3; and Truckenmiller, 1982), as well as consistent correlational structural validity (Brennan & Huizinga, Note 2; and Truckenmiller, 1978, 1983b, Note 4, Note 5) have been found for the Impact Scales. Impact Scales may also be highly predictive of variation for individual SRD items. For example, scores on a "wanton assaultiveness" SRD item and a "vandalism" SRD item can be significantly predicted from Impact Scales (Truckenmiller, 1983a, 1983c). Thus, the possibility that similar results might obtain for predicting self-reported gang fight participation was pursued as a part of programmatic research.

The HEW bahavioral model is one wherein mutually reinforcing components press toward and interact with positive youth development on the one hand, or

delinquency on the other. In the positive direction, a sense of general societal belonging, youth perceived access to desirable social roles, youth perceived positive labeling by significant others, and youth perceived positive peer group pressure are all synergistically reinforcing with positive, nonproblematic behavior. In the negative direction, alienation, perceived lack of access to desirable social roles, perceived negative labeling by significant others, and perceived negative peer group pressure are all mutually reinforcing with problematic and delinquent behavior.

Twelve Impact Scales measure these major components. The alienation component is tapped by the Impact Scales Normlessness vs. Conformity, Powerlessness vs. Control, and Societal Estrangement vs. Societal Integration. Youth perceived labeling by significant others is reflected by three Impact Scales: Negative vs. Positive Labeling by Parents, by Teachers, and by Peers. Another Impact Scale, Parental Rejection, might logically be grouped with the negative labeling scales. Impact Scales Perceived Access to Educational Roles and Perceived Access to Occupational Roles are measures of the perceived access to desirable social roles component. The three remaining Impact Scales are: Normative Peer Group Pressure (negative), Self-Esteem, and Self-Reported Delinquency (SRD).

Insert Table 1 about here

The SRD item pertaining to gang fight participations reads as follows: "Participated in gang fights", endorsed "Never", "Once or Twice", "Several Times", or "Very Often." It is this item which serves as the dependent

variable. Impact Scales excluding SRD served as the predictor variables. Since age and sex have been found the most SRD predictive of demographic variables used in the HEW model (Fink & Truckenmiller, Note 6), these too were included as predictor variables in the present vandalism study.

Method

Subjects

The subjects were 1,551 males and females, ages 10 - 19 years old, who comprised a roughly 6% systematic random sample of youth in schools in one of many county project bases.

Procedure

Materials consisted of the HEW Impact Scales and a demographic questionnaire administered as part of the Youth Needs Survey Questionnaire (Elliott et. al., Note 1) given in the Pennsylvania Youth Services Systems demonstration project (Lombardo, 1977; and Truckenmiller, Skok, & Lennon, 1978). Data was collected by administration of self-report questionnaires with proctors on hand to help with any questions. Confidentiality was maintained by use of respondent identification numbers rather than names.

A stepwise multiple discriminant function analysis of Impact Scales (excluding SRD), age, and sex on the SRD item "Participated in gang fights" (GFP) was run using a BMDP statistical package (Dixon, 1981). Youth endorsing the item "Never" or "Once or Twice" constituted the Low GFP group. Youth endorsing the item "Several Times" were considered the Mid GFP group. Youth endorsing the GFP item "Very Often" were considered the High GFP group.

Results

Table 2 shows a summary of variables successively extracted via stepwise multiple discriminant function analysis and the corresponding approximate

F-statistic for the completed analysis. The variables most predictive of gang fight participation in order of successive extraction were: Normative Peer

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Insert Table 2 about here

Pressure and Youth Perceived Negative Labeling by Teachers.

Table 3 shows: the number of cases cross-classified into Low gang fight participation, Mid gang fight participation, and High gang fight participation levels; the percentage of each actual apriori group correctly predicted into its own category via predictor variables; and the percentage of each aposteriori group (all cases predicted into any given level) containing appropriately placed members of the apriori group. The placement of actual apriori group members (Low gang fight participation for example) into Low, Mid, and High GFP groups is tallied row-wise. The composition of aposteriori groups, for example, the numbers of all those predicted to be High GFP coming from Low, Mid, and High GFP apriori groups, is tallied column-wise.

Insert Table 3 about here

It can be seen from Table 3 that row-wise, 75.4%, 31.7% and 38.5% of the actual apriori Low, Mid, and High GFP groups respectively could be correctly classified as such from predictor variables. Overall, 75.4% of the youth were correctly classified. Column-wise, it can be seen that 98.8%, 4.7% and 3.7% of the aposteriori Low, Mid, and High GFP groups came from the corresponding apriori groups. On an aposteriori basis, then, only 1.2% of the youth

predicted into the Low GFP group were false positives for that group, 95.3% of those youth predicted into the Mid GFP group were false positives for that group, and 96.3% of all youth predicted into the High GFP group were false positives for that group.

Table 4 gives the variable means for the entire group and for the GFP level subgroups. Table 5 gives the corresponding standard deviations.

Insert Tables 4 and 5 about here

Discussion

As can be seen from Table 2, Normative Peer Pressure towards delinquency was far and away the most predictive variable with respect to GFP level according to the self-reports of youth. Youth Perceived Negative Labeling by Teachers was the second most predictive variable. Measures relating to alienation, youth perceived access to desirable social roles, youth perceived negative labeling by parents and peers, parental rejection, self-esteem, age and sex were unrelated to GFP level. Participation in gang fights seems almost exclusively a peer oriented behavior. Remedies might involve some combination of gang energy rechanneling or gang membership dissolution. In individual cases, a youth might be programatically removed from the gang culture. Since this is but a brief report, no attempt will be made to chronicle efforts made in that direction.

The predictive pattern with respect to gang fight participation differs markedly from the predictive pattern for general self-reported delinquency (SRD) obtained from the same sample and variables. Predictor variables for

general delinquency cover a much broader range of factors, peer group pressure highest amongst them. (Truckenmiller, Note 7.) The order of predictive variables from most to least discriminative was as follows: Normative Peer Group Pressure; Normlessness; age; Youth Perceived Negative Labeling by Teachers, by Peers, and by Parents; Self-esteem; Societal Estrangement; and Youth Perceived Parental Rejection. 61.6% of the youth were correctly classified into low, mid, and high delinquency levels. With respect to classification into high delinquency vs. non-high delinquency levels on an aposteriori basis, 7% false negatives were encountered at the expense of 43% false positives.

The problem of false positives such as encountered here in the High GFP grop is typical of situations where one is attempting to predict rare events on an actuarial basis (Monahan, 1981). This problem has been encountered in predicting wanton assaultiveness, vandalism, and hard drug use (Truckenmiller, 1983a, 1983c, 1983d). The apriori High GFP group was composed of only 13 cases, or about 1% of the sample. From the 13, 5 of the High GFP cases were correctly picked. While 130/135 of the cases picked were incorrectly identified as High GFP cases, yielding 96.3% false positives, this represents only 8.4% of all those who could have been misclassified into the High GFP group on the basis of Normative Peer Pressure and Youth Perceived Negative Labeling by Teachers. In general then, results strongly and not surprisingly document the paramount role of peer relations in gang fight participation. However, the problem of false positives in predicting rare events persists.

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Footnotes

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Table 1

List of HEW Community Program Impact Scales Entered into the Stepwise Multiple Regression and Discriminant Function Analyses

1. *Normlessness.*
2. *Societal Estrangement.*
3. *Control vs. Powerlessness.*
4. *Youth Perceived Lack of Access to Educational Roles.*
5. *Youth Perceived Lack of Access to Occupational Roles.*
6. *Youth Perceived Negative Labeling by Parents.*
7. *Youth Perceived Negative Labeling by Teachers.*
8. *Youth Perceived Negative Labeling by Peers.*
9. *Self-esteem.*
10. *Normative Peer Group Pressure Towards Delinquency.*
11. *Parental Rejection.*

Table 2

Summary Table for the Multiple Stepwise Discriminant Function Analysis of HSW Community Program Impact Scales, Age, and Sex vis a vis Self-Reported Gang Fight Participation (GFP)

Step Number	Variable Entered	F Value to Enter	Number of Variables	Approximate F - Statistic	Degrees of Freedom	
1	Nrmppr	47.7928	1	47.793	2.00	1548.00
2	LabTch	9.5974	2	28.453	4.00	3094.00

Note: Nrmppr = Normative Peer Pressure Towards Delinquency; LabTch = Youth Perceived Negative Labeling by Teachers.

Table 3

Classification of Cases into Low, Medium, and High Gang Fight Participation (GFP) Groups from HEW Community Program Impact Scales, Age, and Sex via Multiple Stepwise Discriminant Function Analysis

Apriori Group	Percent Correct	Predicted (aposteriori) Group			Totals
		Low GFP	Mid GFP	High GFP	
Low GFP	75.4	1129	256	112	1497
Mid GFP	31.7	10	13	10	41
High GFP	38.5	3	5	5	13
Totals		1142	274	135	1551
Predicted Percent Correct	74.0	98.8	4.7	3.7	

Table 4

Variable Means for Low, Middle, and High Gang Fight Participation (GFP) Levels and for the Complete Sample

	Group			
Variable	Low GFP	Middle GFP	High GFP	Complete Sample
Age	14.97	14.71	14.85	14.96
Sex	1.52	1.36	1.23	1.51
GFP	1.09	3	4	1.17
Normlss	12.52	15.08	15.31	12.61
Socest	39.04	39.30	41.89	39.07
Acced	10.39	10.15	9.62	10.38
Accop	13.36	13.27	13.26	13.35
LabPar	16.17	20.97	25.31	16.38
LabTch	16.50	24.41	26.23	16.79
LabPer	17.15	22.00	23.75	17.33
Slfest	29.72	30.01	30.08	29.73
Nrmppr	14.32	19.09	19.85	14.50
Parrej	8.63	10.12	10.62	8.69
Control	34.20	32.87	30.62	34.13

Table 5

Variable Standard Deviations for Low, Middle, and High Gang Fight Participation (GFP) Levels and for the Complete Sample

	Group			
Variable	Low GFP	Middle GFP	High GFP	Complete Sample
Age	1.73	1.38	.99	1.72
Sex	.50	.49	.44	.50
GFP	.29	.00	.00	.28
Normlss	2.88	3.20	3.57	2.90
Socest	6.34	6.27	5.97	6.34
Acced	1.39	1.54	1.66	1.40
Accop	2.37	2.94	1.89	2.38
LabPar	6.01	8.05	6.55	6.07
LabTch	7.10	9.01	10.58	7.19
LabPer	6.36	8.64	7.67	6.44
Slfest	4.62	4.76	5.52	4.63
Normppr	3.67	3.42	3.48	3.66
Parrej	2.66	3.12	3.25	2.68
Control	4.09	3.72	2.99	4.08